

Japan, the dividing rate of the second programmable divider 17 is set to 1/3 and the dividing rate of the third programmable divider 18 is set to 1/6. To receive a UHF channel, the local oscillator 19 is oscillated at 767 to 473 MHz. To receive a VHF high-band channel, the local oscillator 19 is oscillated at 657 to 519 MHz and to receive a VHF low-band channel, the local oscillator 19 is oscillated at 630 to 558 MHz.

As described above, the TV receiving tuner of the present invention can output an oscillation signal having a wide frequency band by means of one local oscillator and can be made small in size and inexpensive by using one or a plurality of dividers.

Since the dividing rate of the programmable divider is variable and is changed according to the area where it is used in the TV receiving tuner of the present invention, the same tuner can be used in different areas which differ in TV receiving frequency.

Since a tuning voltage for changing the frequency of the local oscillation signal of the local oscillator is applied to the tracking filter to tune the pass band of the tracking filter to the frequency of the TV signal in the TV receiving tuner of the present invention, the pass band of the tracking filter changes according to the frequency of the local oscillation signal of the local oscillator.

Since the tracking filter is a multi-tuning circuit

in the TV receiving tuner of the present invention, characteristics on the inlet side and characteristics on the outlet side can be designed separately, thereby making it easy to adjust input and output characteristics to circuits before and after the input and outlet sides. Since the attenuation of a signal having an unrequired frequency is large, cross modulation hardly occurs in the mixer.

Since a low-noise preamplifier having an AGC function is interposed between the tracking filter and the mixer in the TV receiving tuner of the present invention, a mono-tuning circuit is not necessary, thereby making it possible to reduce the size of the tuner.

Since a trap circuit for attenuating an image frequency is provided in the TV receiving tuner of the present invention, the noise of the received signal is reduced.

Since the local oscillator can be oscillated at 847 to 505 MHz and the dividing rate of the first programmable divider can be changed to 1,  $1/3$  or  $1/5$  in the TV receiving tuner of the present invention, the TV signal of the U.S. can be converted into an intermediate-frequency signal having a frequency of 44 MHz.

Since the local oscillator can be oscillated at 803 to 473 MHz and the dividing rate of the first programmable divider can be changed to 1,  $1/3$  or  $1/9$  in the TV receiving tuner of the present invention, the TV signal of the U.S.

can be converted into an intermediate-frequency signal having a frequency of 0 Hz.

Since the local oscillator can be oscillated at 824 to 530 MHz and the dividing rate of the first programmable divider can be changed to 1,  $1/3$  or  $1/4$  in the TV receiving tuner of the present invention, the TV signal of Japan can be converted into an intermediate-frequency signal having a frequency of 57 MHz.

Since the local oscillator can be oscillated at 767 to 473 MHz and the dividing rate of the first programmable divider can be changed to 1,  $1/3$  or  $1/6$  in the TV receiving tuner of the present invention, the TV signal of Japan can be converted into an intermediate-frequency signal having a frequency of 0 Hz.

Since the local oscillator is oscillated at 847 to 505 MHz, the dividing rate of the second programmable divider is set to  $1/3$  and the dividing rate of the third programmable divider is set to  $1/5$  in the TV receiving tuner of the present invention, the TV signal of the U.S. can be converted into an intermediate-frequency signal having a frequency of 44 MHz.

Since the local oscillator is oscillated at 803 to 473 MHz, the dividing rate of the second programmable divider is set to  $1/3$  and the dividing rate of the third programmable divider is set to  $1/9$  in the TV receiving tuner of the present invention, the TV signal of the U.S. can be converted into an intermediate-frequency signal